

Appl. No. : 10/821,806
Filed : April 9, 2004

REMARKS

Claims 1-26, 29 and 30, drawn to plant cultivation systems for growing terrestrial plants in saline water, are pending in the present application. The claims stand rejected under 35 U.S.C. §112 or 35 U.S.C. §103 for the reasons discussed below. Claim 1 is amended to recite a plant cultivation system for growing salt-tolerant terrestrial plants. Claim 4 is amended to remove the phrase "a metal ion." Claim 5 is amended to substitute the phrase "wherein the metal ion is" with the phrase "wherein the saline water further comprises a metal ion contaminant." Claim 20 is amended to recite that the growth medium comprises at least one salt-tolerant terrestrial plant, plant part, or seed. Claim 24 is amended to recite a salt-tolerant terrestrial plant. Support for these amendments can be found throughout the specification, for example, on page 2, paragraph [0006], page 25, paragraph [0100], pages 17-20, paragraphs [0065], [0077] and in Example 4. No new matter is added by these amendments.

Claim Rejections Under 35 U.S.C. §112

The Examiner rejected Claim 5 under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the limitation "the metal ion." Prior to the Applicants' present amendments, the antecedent basis for this limitation lay in Claim 4. Applicants have amended Claims 4 and 5 to remove the phrase "the metal ion" from Claim 4 and place it within Claim 5 in the phrase "wherein the saline water further comprises a metal ion contaminant," thereby more clearly establishing the antecedent basis for the limitation "the metal ion selected from the group consisting of." Thus, Applicants submit that the grounds for this rejection have been corrected, and accordingly, respectfully request withdrawal of the rejection.

Claim Rejections Under 35 U.S.C. §103

The Examiner rejected Claims 1-26, 29 and 30 under 35 U.S.C. §103(a) as being unpatentable over Kitsu (U.S. Patent 4,382,348) in view of Hogen (U.S. Patent 4,536,988) or as being unpatentable over Kitsu and Hogen in view of Raskin (U.S. Patent 5,876,484), Shryock (U.S. Patent Application No. 10/223,803, published as U.S. 2003/0049392), or Kiode (U.S. Patent 5,261,185) based on the arguments provided in an Office Action dated July 26, 2007.

Specifically, the Examiner alleges that Kitsu discloses a plant cultivation system that can be used in saline water as claimed by the Applicants, and further that features of the present claims are obvious incorporations of the teachings of Hogen, Raskin, Shryock, or Kiode. The Examiner bases this argument on the disclosure of a growth system as a pond device by Kitsu. In the Examiner's view, this renders the presently claimed system unpatentable by virtue of the fact that the Applicants claim the use of the growth system in saline water, while allegedly disclosing the definition of pond water as saline water. Applicants disagree.

To establish a *prima facie* case of obviousness, a three-prong test must be met. First, there must be some suggestion or motivation, either in the references or in the knowledge generally available among those of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success found in the prior art. Third, the prior art reference must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Applicant maintains that the Patent Office has not given due weight and consideration to all of the elements of the pending claims.

Applicants respectfully submit that Kitsu's disclosure does not teach or suggest all of the claim limitations of the instant application. For example, Kitsu's disclosure of pond water does not teach or suggest a plant cultivation system in saline water as claimed by the Applicants. The term "pond" is commonly used to specify a body of water of a certain size and depth, namely a small body of water shallow enough for light to be found at all depths. The term "pond" does not define a body of water of a certain composition. Pond water as presently claimed is separated from brackish water, as the Examiner points out, but Applicants have made this distinction merely to describe various types of water that may be considered to be saline water. Kitsu discloses a plant growth system using a "nutrient solution," which in some instances may be pond water. However, the mere disclosure of "pond water" by Kitsu does not necessarily indicate saline water. Though the Examiner asserts that "all water has some level of salt and therefore all water can be considered to be saline at some level," at the level of consideration of those of skill in the art, saline water is distinguished from fresh water by established metrics. The United States Geological survey, for example, defines highly saline water as having between 10,000 to 35,000 parts per million (ppm; by weight) dissolved salts, moderately saline water as having between 3,000 and 10,000 ppm, and slightly saline water as having between 1,000 and

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3,000 ppm. Water with less than 1,000 ppm dissolved salts is not classified as saline water, but as fresh water. Thus, a saltwater fishpond and a freshwater pond in a city park are both ponds, but only the former can be said to contain saline water. Because pond water is not assumed to be saline water by those of skill in the art, Applicants assert that no nexus exists between the saline water that is a positive feature of the present claims and the water of Kitsu; Applicants' and Kitsu's disclosures merely share the use of the generic word "pond."

Moreover, Kitsu's only mention of "pond" is at column 4, lines 25-27, and is in the following context: "That is, the device can also be used in a pond, river, *or other suitable nutrient solution source.*" Kitsu defines "nutrient solution" as: "any cultivating solution including plain water, water in which fertilizer or other nutrient material has been dissolved, or the like." There is no indication in Kitsu that salt would be considered a "nutrient." Thus, the disclosure of Kitsu does not teach or suggest the subject matter of the pending claims, and therefore, the pending claims are not obvious over the cited combination of references.

Nevertheless, in the interest of advancing the instant application to allowance, Applicants have amended Claim 1, from which Claims 2-26, 29 and 30 depend, as well as Claims 20 and 24, to recite a plant cultivation system for growing salt-tolerant terrestrial plants in saline water. Thus, a growth system for plant cultivation in saline environments is a meaningful feature of the claims that must be considered in evaluating the patentability of the claims. No new matter is added by these amendments, and support can be found extensively throughout the specification.

The Examiner acknowledges that Claim 29 differs from Kitsu's system in calling for a specific type of plant, but asserts that it would have been an obvious choice to plant a specific type of plant depending on what is aesthetically pleasing to the user. Applicants submit that the selection of plants depends not on what is aesthetically pleasing to the user, but instead depends heavily on the specific ability of a plant to be cultivated in saline environments for preferred purposes such as crop growth in coastal areas of limited arable land, as described abundantly in the specification. Applicants submit that the amendment adding salt-tolerant plants to Claim 1 illustrates this specific concept. Applicants also assert that the features of the claims as amended are not contemplated by Kitsu. Furthermore, the cited documents of Hogen, Raskin, Shryock and Kiode do not remedy the outstanding deficiencies of Kitsu. Therefore, as Kitsu alone or in combination with Hogen, Raskin, Shryock and Kiode do not teach or suggest all the features of

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the claims as amended, Applicants respectfully submit that the presently amended claims are in condition for allowance and request the withdrawal of this rejection.

Conclusion

In view of the amendments and arguments presented above, Applicants submit that the present application is in condition for allowance and respectfully request the same. If any issues remain, the Examiner is cordially invited to contact Applicants' counsel at the number provided below in order to resolve such issues promptly.


Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 19-3140.

Respectfully submitted,

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